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EXAMINER

VOLPER, THOMAS E

| ART UNIT | PAPER NUMBER |
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2697

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/484,611

Applicant(s)

DARUWALLA ET AL.

Examiner

Thomas Volper

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 and 37-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 and 37-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 2 June 2003 have been fully considered but they are not persuasive.

Regarding claims 1, 19 and 43, the Examiner respectfully disagrees with the Applicants that the claims are in condition for allowance. The Applicants assert that none of the prior art suggests the feature of pre-registration of a cable modem with a protection CMTS (paragraphs 6 and 7 of Remarks). However, claims 1, 19 and 43 recite the limitation "registering the cable modem with the protection CMTS before or after it registers with the working CMTS". Otani et al. (US 6,449,250) discloses registering the cable modem with the protection CMTS after it registers with the working CMTS (col. 6, line 61 – col. 7, line 18). Otani et al. also discloses assuming a protection state in which the protection router can take over service prior to the working router becoming unavailable. This limitation is evident from the monitor device (7) that detects failure by polling the devices in order to disconnect the failed device (10) and connect the protection device (1n) to the CATV transmission path (6) (col. 4, lines 42-46). Claims 1, 19 and 43 stand rejected as being anticipated by Otani et al. (US 6,449,250).

Regarding claim 13, the Examiner respectfully disagrees with the Applicants that the claim is in condition for allowance. Claim 13 has been amended to include the limitation "wherein the CMTS is configured to store the registration data at a time prior to the working CMTS becoming unavailable". Otani et al. discloses that each central device (10-12) includes a memory (101) for storing a system program and data (col. 5, lines 11-12). The memory (101)

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includes a cable modem controller (115) that maintains and administrates control information of the cable modem connected to the central device through the CATV transmission path (6) (col. 5, lines 51-55). This cable modem controller (115) represents the part configured to store registration data. Since all of the central devices have this configuration, and a working central device is operating initially, the protection device has this configuration before the working CMTS becomes unavailable. Claim 13 stands rejected as being anticipated by Otani et al. (US 6,449,250).

This action is deemed final because Applicants' arguments and amendment with respect to claims 1, 13, 19 and 43 do not overcome the 35 U.S.C. 102(e) rejection based on Otani et al. (US 6,449,250).

2. Applicant's arguments with respect to claims 11, 25 and 38 have been considered but are moot in view of the new ground(s) of rejection.

Drawings

3. The drawings are objected to because Figures 2D and 2E have hand drawn labels. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 10, 13-18 and 25 are objected to because of the following informalities: These claims all recite the limitation "the CMTS". All of these claims also include a working CMTS and a protection CMTS. It is unclear whether "the CMTS" refers to the working CMTS or the protection CMTS. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 38 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 38 recites the limitation "the protection CMTS" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

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subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1, 2, 4, 6, 8-10, 13, 14, 17-20, 22-24 and 43 are rejected under 35 U.S.C. 102(e) as being anticipated by Otani et al. (US 6,449,250), cited by IDS submitted December 2, 2002.

Regarding claim 1 and 43, Otani discloses a system wherein a central device (10, Fig. 1) operates to provide service to a cable modem (70). This central device acts like the CMTS of the present invention. Otani discloses registering the cable modem with the protection CMTS after it registers with the working CMTS (col. 6, line 61 – col. 7, line 18). In a case of failure of the central device (10), the protection device (1n) takes over. The IP and MAC addresses associated with that connection are set to the protection device (1n) (col. 4, lines 42-65).

Regarding claim 2, a memory (101, Fig. 3) in each of the central devices (10-1n, Fig. 1) contains a cable modem controller (115, Fig. 3). This controller (115) administrates control information to the cable modem connected to the central device, including received or transmitted RF signal level control, and settings of RF signal frequencies to the modulator and demodulator of the cable modem (col. 5, lines 51-65).

Regarding claim 4, see aforementioned reference to Otani regarding claim 1.

Regarding claim 6, Otani discloses that the protection device (1n) inherits the IP and MAC address of the segment (R0, Fig. 1) from the transmission path side of device (10), which is the original working device. This way cable modem (80) can continue to receive service (col. 4, lines 60-65).

Regarding claim 8, Otani discloses that the memory (101, Fig. 3), present in all central devices, contains a cable modem controller (115, Fig. 3) that maintains and administrates control

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information of the cable modem connected to the central device through the CATV transmission path (col. 5, lines 51-55).

Regarding claim 9, Otani teaches that the cable modem controller also executes settings of RF signal frequencies to the modulator and demodulator in the cable modem (col. 5, lines 58-61).

Regarding claim 10, Otani discloses that monitoring device (7, Fig. 1) detects a failure of the working central device (10). A switch device (5, Fig. 1) disconnects device (10) and connects the protection device (1n) (col. 4, lines 42-46).

Regarding claim 13, Otani discloses a system in which a protection device takes over the operations of a failed working device, as aforementioned with regards to claim 1 above. Furthermore, Otani discloses that each central device (10-12, Fig. 2) includes a CPU (100, Fig. 3) and a memory (101, Fig. 3) (col. 5, lines 8-15). Inside the memory is a cable modem controller (115, Fig. 3) that maintains and administrates control information of the cable modem (col. 5, lines 51-55). This control information represents the registration data of the present invention. When the condition is normal, meaning that device (10) is working, the switch device (5, Fig. 2) maintains the connection of device (10) to the transmission path (6, Fig. 2). Only when a failure occurs does the device (10) become disconnected and the device (12) become connected to the transmission path (col. 6, lines 47-58).

Regarding claim 14, Otani discloses that the cable modem controller (115) of each central device can communicate transmit and receive frequency information to the cable modem (col. 5, lines 51-65).

Regarding claim 17, Otani discloses that the memory (101, Fig. 3), present in all central devices, contains a cable modem controller (115, Fig. 3) that maintains and administrates control information of the cable modem connected to the central device through the CATV transmission path (col. 5, lines 51-55).

Regarding claim 18, Otani teaches that the memory (101) inside the central devices contains a routing controller (114, Fig. 3) and a RIP controller (113, Fig. 3). The routing controller performs routing IP addresses according to routing information administrated by the RIP controller (col. 5, lines 41-50).

Regarding claim 19, Otani discloses a monitor device (7, Fig. 2) on which is comprised of a personal computer that runs a monitor device program and automatic switching program. The monitoring program may detect a failure of the working device, which in turn spurs the automatic switching program. This program maintains a network address, i.e. IP address, of the segment on the transmission path side of the central devices. The information of the failed device is transferred to the protection device and the protection device becomes active (col. 7, lines 1-18). Otani et al. (US 6,449,250) discloses registering the cable modem with the protection CMTS after it registers with the working CMTS (col. 6, line 61 – col. 7, line 18).

Regarding claim 20, Otani teaches that the automatic switching program maintains information including upward/downward RF frequencies. This information of the failed device is transferred to the protection device (col. 7, lines 8-18).

Regarding claim 22, see aforementioned reference to Otani regarding claim 19.

Regarding claim 23, Otani discloses that the memory (101, Fig. 3), present in all central devices, contains a cable modem controller (115, Fig. 3) that maintains and administrates control

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information of the cable modem connected to the central device through the CATV transmission path (col. 5, lines 51-55).

Regarding claim 24, see aforementioned reference regarding claim 19.

10. Claim 11 is rejected under 35 U.S.C. 102(e) as being anticipated by Baskey et al. (US 6,148,410).

Regarding claim 11, Baskey discloses a system of at least two Fault Tolerant Recoverable TCP/IP Connection Routers (FTR-CR) where the FTR-CRs have synchronized internal tables and are capable of switching between active and standby states (col. 1, lines 5-11). A monitoring manager (MM) (240) can detect that the active FTR-CR (100) has failed, and change the standby FTR-CR (105) to change from the standby state to the active state (col. 3, lines 49-67). The active FTR-CR and standby FTR-CR represent the working router and protection router, respectively, of the present invention. Each router includes a reach-ability set, which is the configured list of hosts or subnets that must be monitored for reach-ability (col. 4, lines 9-23). This reach-ability set is equivalent to the registering of a host with the protection router of the present invention. Each router also includes a synchronization manager (SM) (220) that is used to synchronize internal data or tables of the active and standby routers (100,105) by communicating configuration information between the two routers. This synchronization allows the backup router to takeover without delay when the primary router fails (col. 4, lines 54-67). This synchronization represents the assumption of a protection state, as in the present invention.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 3, 5, 7, 15 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otani et al. (US 6,449,250) as applied to claims 1, 2, 4, 6, 8-10, 13, 14, 17-20, 22-24 and 43 in the 102(e) rejection above, and further in view of Chapman (US 6,438,123).

Regarding claims 3 and 21, Otani discloses all of the limitations of the claims except that registration comprises specifying DOCSIS compliant parameters. Chapman teaches a system in which a cable modem system (12) that operates according to a protocol such as Data Over Cable System Interface Specification (DOCSIS) (col. 3, lines 50-58). One parameter that identifies a link between a CMTS and a cable modem is DOCSIS Service Identification (SID) (col. 3, 59-65). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the SID as a parameter for registering a cable modem with the protection device of Otani. One of ordinary skill in the art would have been motivated to do this in order to provide the protection device with the identification of the link to the cable modem for which it was to take over service if the system was operating according to DOCSIS protocol.

Regarding claim 5, Otani discloses all of the limitations except that the cable modem obtains the IP address in a communication with the cable modem. Chapman discloses a connection between a CMTS and a cable modem using the DOCSIS signaling protocol whereby

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a unique IP flow is established with each connection. The connection may be initiated by the cable modem (col. 5, lines 38-49). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to allow the cable modem to establish the IP connection with the protection device of Otani in the event of a failure of the working device, because the failed working device may be unable to provide the IP address if it is completely inoperable.

Regarding claim 7, Otani fails to disclose that the cable system provides telephony service to the cable modem. Chapman discloses that cable modem systems are used to carry VoIP packets (col. 1, lines 39-41). In the invention of Chapman, header suppression is applied to a network, and is particularly useful for transmitting VoIP packets in a cable network (col. 1, lines 57-67). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to provide VoIP service in the cable network of Otani. One of ordinary skill in the art would have been motivated to do this offer a wider variety of services to a cable modem end user in the network of Otani.

Regarding claim 15, Otani discloses all of the limitations except that the system is configured to implement DOCSIS. Chapman discloses a cable modem system (12) that operates according to DOCSIS. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to configure the processors and memory to implement DOCSIS. One of ordinary skill in the art would have been motivated to do this in order to provide protection capability to a system that operated according to DOCSIS, such as the system of Chapman.

13. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baskey et al. (US 6,148,410).

Regarding claim 12, Baskey provides all of the limitations of claim 12 as described in the 102(e) rejection with respect to claim 11 above, except fails to disclose that the network is a wireless network. Wireless networks between a router and a host are well known in the art. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use a wireless network in the invention of Baskey. One of ordinary skill in the art would have been motivated to do this to provide the host with service if the host became mobile.

14. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Otani et al. (US 6,449,250) as applied to claims 1, 2, 4, 6, 8-10, 13, 14, 17-20, 22-24 and 43 above, and further in view of Fijolek et al. (US 6,577,642).

Regarding claim 16, the system provided by the teaching of Otani fails to expressly disclose that the registration data includes an IP address for the cable modem. Fijolek discloses a system in which a cable modem (16), in communication with a CMTS, supports transmission and reception of IP datagrams as specified by RFC-791 (col. 9, lines 43-49). The cable modem must have an IP address in order to receive IP datagrams. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include the IP address of the cable modem in the registration data provided by the system of Otani. One of ordinary skill in the art would have been motivated to do this in order to transmit and receive datagrams from the cable modem.

15. Claims 25, 26, 28, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otani et al. (US 6,449,250) in view of Baskey et al. (US 6,148,410).

Regarding claims 25 and 26, Otani teaches a system wherein a protection central device (1n) takes over the operation of a working central device (10) in communication with a cable modem (70) in the case of a failure (col. 4, lines 42-65). The working and protection central devices of Otani represent the working and protection CMTSs of the present invention. Otani discloses registering the cable modem with the protection device (col. 6, line 61 – col. 7, line 18). Otani fails to expressly disclose registering the cable modem with the protection device, thereafter determining service to the cable modem has become unavailable. Baskey discloses at least two Fault Tolerant Recoverable TCP/IP Connection Routers (FTR-CR) where the FTR-CRs have synchronized internal tables and are capable of switching between active and standby states (col. 1, lines 5-11). Each router also includes a synchronization manager (SM) (220) that is used to synchronize internal data or tables of the active and standby routers (100,105) by communicating configuration information between the two routers. This synchronization allows the backup router to takeover without delay when the primary router fails (col. 4, lines 54-67). The backup and primary router are analogous to the protection and working CMTSs of the present invention in that they provide protection against failure to maintain service to a client end over a network. The internal data and tables of each of the routers is analogous to registration data stored in the CMTSs of the present invention. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the synchronization feature of Baskey to maintain registration data in both the working device and the protection device before

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the working device becomes unavailable. One of ordinary skill in the art would have been motivated to do this to provide a transparent switchover to the protection device that avoided any disruption in service to the cable modem.

Regarding claim 28, Otani discloses that each central device (10-12) includes a cable modem control (115) that administrates and controls RF signal frequencies to the modulator and demodulator of the cable modem (col. 5, lines 51-65).

Regarding claim 30, Otani discloses that the protection device (1n) inherits the IP and MAC address of the segment (R0, Fig. 1) from the transmission path side of working device (10), which is the original working device. This way cable modem (80) can continue to receive service (col. 4, lines 60-65). Moreover, it is possible that the device (10) informs the failure detection to monitor device (7) by itself (col. 8, lines 47-49).

Regarding claim 31, Otani teaches that the memory (101) inside the central devices contains a routing controller (114, Fig. 3) and a RIP controller (113, Fig. 3). The routing controller performs routing IP addresses according to routing information administrated by the RIP controller (col. 5, lines 41-50)

16. Claims 27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otani et al. (US 6,449,250) in view of Baskey et al. (US 6,148,410) as applied to claims 25, 26, 28, 30 and 31 above, and further in view of Fijolek et al. (US 6,577,642).

Regarding claim 27, the system provided by the teaching of Otani in view of Baskey fails to expressly disclose that the registration parameters include an IP address for the cable modem. Fijolek discloses a system in which a cable modem (16), in communication with a CMTS,

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supports transmission and reception of IP datagrams as specified by RFC-791 (col. 9, lines 43-49). The cable modem must have an IP address in order to receive IP datagrams. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include the IP address of the cable modem in the registration data provided by the system of Otani in view of Baskey. One of ordinary skill in the art would have been motivated to do this in order to transmit and receive datagrams from the cable modem.

Regarding claim 29, the system provided by the teaching of Otani in view of Baskey fails to expressly disclose providing telephony service to the cable modem. Fijolek discloses that the cable modem may be connected to the PSTN (22) for upstream data transmission with telephony return. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to provide this telephony service in the system provided by Otani in view of Baskey. One of ordinary skill in the art would have been motivated to do this to offer more service options to a user.

17. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Otani et al. (US 6,449,250) in view of Baskey et al. (US 6,148,410) as applied to claims 25, 26, 28, 30 and 31 above, and further in view of Unger (US 6,477,197).

Regarding claim 37, Otani in view of Baskey fails to expressly disclose that unavailability is indicated by a downstream channel change request. Unger discloses a system wherein each of a plurality of cable modems connected to a particular input of a CMTS are sent instructions to switch from a frequency X to frequency Y. In response to these instructions, all of the cable modems make the switch (col. 3, lines 51-63). At the time the invention was made,

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it would have been obvious to a person of ordinary skill in the art to use the instruction to change channel in the invention of Unger to indicate unavailability in the system provided by the teaching of Otani in view of Fijolek. One of ordinary skill in the art would have been motivated to do this so that the cable modem may begin using the correct frequency for communication with the protection device.

18. Claims 38 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otani et al. (US 6,449,250).

Regarding claims 38 and 40, Otani discloses a system wherein a central device (10, Fig. 1) operates to provide service to a cable modem (70). This central device acts like the working CMTS of the present invention. In a case of failure of the central device (10), the protection device (1n) takes over. The protection device represents the protection CMTS of the present invention. The IP and MAC addresses associated with that connection are set to the protection device (1n) (col. 4, lines 42-65). Otani discloses a device structure that includes a memory (101), which contains a cable modem controller (115). This controller administrates control information of a cable modem and executes settings of RF signal frequencies to the modulator and demodulator of the cable modem (col. 5, lines 51-65). Otani also discloses that this structure is common to all central devices (10-12) (col. 5, lines 8-15). Otani fails to expressly disclose that the cable modem maintains these separate settings for each device, working and protection. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to maintain these settings as for each device. One of ordinary skill in the art would have been motivated to do this because each device would have to send its own RF signal frequency

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settings to the cable modem in order for communication to take place. In the event of failure of the working device, the cable modem would need to have the settings of the protection device in order to resume communication in a protection state.

19. Claims 39 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otani et al. (US 6,449,250) as applied to claims 38 and 40 above, and further in view of Fijolek et al. (US 6,577,642).

Regarding claim 39, Otani provides all of the limitations except that the registration data comprises an IP address for the working and protection CMTSs. Fijolek discloses a data-over-cable system (10) that includes a cable modem termination system (CMTS) (12), which is connected to a cable modem (CM) (16) via a cable network (14) (see Figure 1). The CM (16) is configurable to keep IP routing tables and is capable of sending a packet to the CMTS by prepending the packet with the unicast address of the CMTS (col. 10, lines 1-9). Fijolek also discloses that the system (10) may include multiple CMTSs. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the IP routing tables of Fijolek to store the IP addresses of the working and protection devices of Otani. One of ordinary skill in the art would have been motivated to do this in order to route the packets successfully to either one of the devices.

Regarding claim 41, Otani fails to disclose that the cable modem (70) is configured to implement DOCSIS. Fijolek discloses that the interface specifications for the CM (16) are defined in Data Over Cable Service Interface Specifications (DOCSIS) (col. 32, lines 14-23). At the time the invention was made, it would have been obvious to a person of ordinary skill in the

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art to implement DOCSIS in the system of Otani. One of ordinary skill in the art would have been motivated to do this because DOCSIS facilitates a variety of data communications service offerings over cable networks.

20. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Otani et al. (US 6,449,250) in view of Fijolek et al. (US 6,577,642) as applied to claims 39 and 41 above, and further in view of Unger (US 6,477,197).

Regarding claim 42, Otani in view of Fijolek fails to expressly disclose that the cable modem is designed to send a channel change response in response to a downstream channel change request from the working CMTS. Unger discloses a system wherein each of a plurality of cable modems connected to a particular input of a CMTS are sent instructions to switch from a frequency X to frequency Y. In response to these instructions, all of the cable modems make the switch (col. 3, lines 51-63). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use this frequency switching process in the system provided by the teaching of Otani in view of Fijolek. One of ordinary skill in the art would have been motivated to do this to switch to a more desirable channel that is ingress-free of various outside radio sources.

Conclusion

21. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Wils et al. (US 6,397,260) Automatic Load Sharing for Network Routers
- Bhaskaran (US 5,963,540) Router Pooling in a Network Flowswitch
- S. Knight et al., "Virtual Router Redundancy Protocol", April 1998, IETF, RFC 2338

23. Any inquiry concerning this communication, or earlier communications from the examiner should be directed to Thomas Volper whose telephone number is 703-305-8405 and fax number is 703-746-9467. The examiner can normally be reached between 8:30am and 6:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached at 703-308-6602. Any inquiry of a general nature or relating

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to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

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